

Application Serial No. 09/657,250 - Filed September 6, 2000

**IN THE CLAIMS**

Please add claim 29 and amend claims 1, 7, 13, 14, 15, 18, 20, 22, 24, 26 and 28 as indicated below.

1. (Currently Amended) A system for booking events and initiating actions corresponding to said events, said system comprising:

an event broker configured to register a plurality of event bookings in response to requests from one or more clients, wherein each said event booking identifies a corresponding an event which may occur in the future and a corresponding an action to be taken should the identified event occur;

one or more event managers, wherein each of said one or more event managers is configured to detect particular types of events; and

one or more action handlers, wherein each of said one or more action handlers is configured to initiate particular types of actions;

wherein each of said event broker, said clients, said event managers, and said action handlers comprise distinct functional entities;

wherein a first event manager of said one or more event managers is configured to notify said event broker of a first event which corresponds to a first event booking, in response to detecting said first event;

wherein the event broker is configured to notify a first action handler which corresponds to the first event booking, in response to receiving notification from the first event manager of the detected first event; and

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wherein the first action handler is configured to initiate a first action, in response to receiving notification from the event broker of the detected first event.

2. (Previously Presented) The system of claim 1 wherein said first event manager is not configured to communicate directly with said first action handler.
3. (Previously Presented) The system of claim 1 wherein said system is implemented as a framework in a receiver for a broadcast system comprising a software layer between an application layer and a driver layer.
4. (Previously Presented) The system of claim 1, wherein in response to receiving a request to register said first event booking, said event broker is configured to:
  - identify and select said first event manager from a plurality of event managers, wherein said first event manager is identified as being configured to detect events of a type corresponding to said first event; and
  - identify and select said first action handler from a plurality of action handlers, wherein said first action handler is identified as being configured to initiate actions of a type corresponding to said first action.
5. (Original) The system of claim 1 wherein at least a portion of said events are associated with a broadcast signal.
6. (Original) The system of claim 3 wherein said event broker, said one or more event managers and said one or more action handlers comprise library extensions accessible by an operating system executing in said receiver.
7. (Currently Amended) The system of claim 1 wherein said event broker is configured to maintain store in non-volatile storage said event bookings from a plurality of distinct clients.

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8. (Original) The system of claim 1 wherein said events corresponding to said event bookings comprise a plurality of distinct event types.
9. (Original) The system of claim 1 wherein said actions corresponding to said event bookings comprise a plurality of distinct action types.
10. (Previously Presented) The system of claim 1, wherein subsequent to receiving notice of said first event booking from said event broker, said first event manager is configured to:

determine whether the first event booking will be accepted by the first event manager; and  
provide a positive acknowledgement to said event broker in response to determining the first event booking is accepted.
11. (Original) The system of claim 1 wherein said event broker is configured to determine resources required by said actions and to resolve resource conflicts between said actions.
12. (Original) The system of claim 1 wherein said event broker is configured to maintain ranks corresponding to said event bookings and, if a plurality of said events have been detected, to initiate said corresponding actions in an order determined by said ranks.
13. (Currently Amended) The system of claim 1 wherein clients are configured to access event bookings which have been stored by the event broker, said access comprising a query, a modification, or a termination of a stored event booking, and wherein said event broker is configured to control said accesses to said event bookings by clients based on permissions associated with said accesses and said event bookings.

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14. (Currently Amended) The system of claim [1] 7 wherein each of said stored event bookings has a corresponding expiration time and wherein said event broker is configured to unregister ones of said event bookings which have passed said expiration time.

15. (Currently Amended) A method for brokering and managing event bookings, said method comprising:

receiving a request from a client for an event booking at an event broker, wherein said request identifies a first event which may occur in the future and a first action to be taken upon occurrence of said first event;

registering said event booking request, wherein said event broker notifies a first event manager corresponding to said first event, and notifies a first action handler corresponding to said first action, wherein said event broker, said client, said first event manager, and said first action handler comprise distinct functional entities;

detecting said first event by said first event manager;

said first event manager notifying said event broker of said detection of said first event;

said event broker providing notification to said first action handler of said detection of said first event; and

initiating said first action by said first action handler in response to detecting said notification from said event broker.

16. (Original) The method of claim 15 wherein said plurality of event bookings are registered in a central location.

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17. (Original) The method of claim 15 wherein said events corresponding to said plurality of event bookings comprise a plurality of event types, wherein said event types are detected by a plurality of event managers.
18. (Currently Amended) The method of claim 15 wherein registering one of said booking events comprises storing in non-volatile storage information identifying one of said plurality of event managers which is configured to detect said corresponding event.
19. (Original) The method of claim 15 wherein said actions corresponding to said plurality of event bookings comprise a plurality of action types, wherein said action types are initiated by a plurality of action handlers.
20. (Currently Amended) The method of claim 19 wherein registering one of said booking events comprises storing in non-volatile storage information identifying one of said plurality of action handlers which is configured to initiate said corresponding action.
21. (Original) The method of claim 20 wherein said action is selected from the group consisting of: downloading an application; launching an application; launching a popup; and notifying a running application of said one of said events.
22. (Currently Amended) A device comprising:
  - a signal receiver configured to receive a broadcast signal;
  - a first event manager, wherein said first event manager is configured to detect particular types of events;
  - a first action handler, wherein said first action handler is configured to initiate particular types of actions; and
  - an event broker mechanism, wherein said mechanism is configured to:

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receive a request for an event booking from a client, wherein said request identifies a first event which may occur in the future and a first action to be taken upon occurrence of said first event; register said event booking request, wherein said event broker notifies said first event manager and said first action handler;

wherein each of said event broker mechanism, said client, said first event manager, and said first action handler comprise distinct functional entities;

wherein said first event manager is configured to detect said first event and notify said event broker of said detection of said first event; and

wherein said first action handler is configured to initiate said first action in response to receiving notice from said event broker that said first event has been detected.

23. (Original) The device of claim 22 wherein said device comprises an interactive television system receiver coupled to receive said broadcast signal from a broadcast station and configured to provide an output signal to a television.

24. (Currently Amended) The device of claim 22, wherein said event booking does not identify the first event manager, and wherein said event broker mechanism is further configured to:

identify from a plurality of event managers configured to detect different types of events an event manager which is configured to detect events of a type corresponding to the first event; and

register the identified event manager as the first event manager said first event manager from a plurality of event managers, wherein said first event

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~~manager is identified as being configured to detect events of a type corresponding to said first event.~~

25. (Previously Presented) The device of claim 22, wherein said first event manager is not configured to communicate directly with said first action handler.
26. (Currently Amended) The device of claim 22, wherein the request includes a description of the first event using a syntax which is unintelligible to the event broker mechanism, but which is intelligible to the first event manager, wherein subsequent to receiving notice of said event booking from said mechanism, said first event manager is configured to determine whether said event booking will be accepted by said first event manager, and provide a positive acknowledgement to said mechanism in response to determining said event booking is accepted.
27. (Previously Presented) The device of claim 22, wherein said mechanism is further configured to:  
  
receive an additional request for an event booking, wherein said additional request indicates a second action;  
register said additional event booking request;  
determine a resource conflict exists between said event booking request and said additional event booking request; and  
resolve said resource conflict.
28. (Currently Amended) The device of claim 22, wherein clients are configured to initiate accesses to event bookings which have been stored by the event broker mechanism, said accesses comprising a query, a modification, or a termination of a stored event booking, and wherein said mechanism is configured to control said accesses to said event bookings based on permissions associated with said accesses and said event bookings.

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29. (New) The device of claim 22, further comprising a non-volatile storage device, wherein the event broker mechanism is configured to store event bookings on said non-volatile storage device.